

Remarks

In response to the Office action mailed December 16, 2005, reconsideration and allowance are respectfully requested.

Claim 5 is amended to add the limitation “wherein said power supply circuit substantially reduces shock noise.” No new matter is presented.

The Examiner’s § 102 rejection of claims 5-7 as anticipated by Shimozono (US 6,791,397) is traversed.

A power supply circuit according to the present invention solves a problem that is totally different from the problem to be solved by the constant current circuit disclosed in Shimozono. The present invention is directed to reducing shock noise with higher efficiency. Shock noise tends to be generated in previously known power supply circuits, especially at start-up. Shock noise can be reduced using a delay circuit but — as is discussed in the specification of the present invention — using the delay circuit causes lower efficiency in the power supply circuit.

In contrast to the present invention, Shimozono is directed to controlling the variation in output current duty caused by the input capacitor of the transistor base terminal used in a current mirror circuit when the switching rate increases or the current decreases. The constant current circuit of Shimozono is used to turn on and off a load (an LED, for example) via switching circuits. The variation in output current duty is a problem particular to a constant current control with switching circuits. In Shimozono, the shock noise problem is not handled (or even discussed).

Moreover, a current mirror circuit does not correspond to the bootstrap circuit of this invention, because a current mirror circuit itself cannot increase an input impedance of the output circuit. The current mirror circuit of Shimozono is used to amplify a reference current

to output the amplified signal to the output circuit. Thus Shimozone's current mirror circuit does not "heighten an input impedance of the output circuit," as recited in claim 5, and therefore Shimozone does not disclose or suggest the delay circuit and the bootstrap circuit claimed in the present invention.

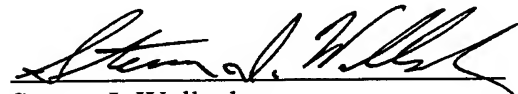
Furthermore, contrary to Shimozone, the delay circuit and the bootstrap circuit recited in claim 5 are provided to reduce shock noise with higher efficiency, especially at start-up of the power supply circuit. To further clarify this aspect of the invention, independent claim 5 is amended to specifically recite "wherein said power supply circuit substantially reduces shock noise."

In view of the foregoing, independent claim 5 and dependent claims 6 and 7 are not anticipated by Shimozone.

The Examiner's § 103 rejection of claims 8 and 9 as obvious over Shimozone and the prior art depicted in Figure 1 of the present application is also traversed. For at least the reasons given above regarding independent claim 5, and in view of the amendment to that claim, dependent claims 8 and 9 are patentable over the cited art.

This application is therefore believed to be in condition for allowance, and a Notice to that effect is respectfully solicited.

Respectfully submitted,



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